

started. In April 1983, they placed the ants in a specially designed farm with a wooden frame and nonglare plexiglass. The temperature was 55°-85°, and a fan circulated air when necessary. The RCA video and movie cameras, powered by their own batteries, recorded the activities of the ants.

The queen's chamber was in the lower part of a J-shaped plexiglass habitat designed by the Camden students with help from the Temple University College of Arts and Science Research and Development Shop, which also built the unit. The habitat was composed of two sections: a red-tinted lower portion representing the underground living quarters of the ants and a clear plexiglass upper section simulating their above-ground environment. The ants would build the queen's chamber in the lower section, which was filled with wood chips and had, at its base, a bed of charcoal to filter out impurities.

### Feeding

The fifteen-inch vertical shaft of the above-ground section was filled with sphagnum moss. It contained both a "water wick" to provide moisture and sugar cubes for food. The sugar cubes, spaced throughout the upper area, offered foraging opportunities for the "soldiers." The upper portion of the habitat provided space for the ants to dispose of waste materials and dead bodies of other ants.

By mid-June 1982, a vibration test had been made at RCA's astro-electronics plant in Princeton, New Jersey. A special device shook the payload about five times as hard as the shuttle ride would. When the test was over, ants emerged. Lights, cameras, and

other equipment had survived the test. Twice more, equipment and ants withstood the vibration.

This was *not* the case, however, at the end of the actual ride, when neither Nora, the queen, nor her companions survived. The students analyzed the film and videotape taken of the ants aboard the shuttle and evaluated a battery pack designed with the RCA technicians and used to power the cameras in orbit. They also conducted a number of biological tests on the ants and contents of the farm immediately upon the return of the canister to Camden. In their report on the cause of death of the ants, the students concluded that they died of dehydration within a few days of being placed in the canister. The purging of the canister with dry air, required by NASA to prevent moisture in the air from condensing on the internal electronics, is believed to have caused the quick evaporation of moisture from the farm and the early demise of the colony.

Some three hundred minority students worked on the project and finished it with a sense of pride and achievement. Some went on to college; all utilized the skills and training acquired in class. Their schools and city, too, benefited through their accomplishment, thanks to "Orbit '81."

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